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SACLANT ASW RESEARCH CENTRE MEMORANDUM

MERCHANT SHIPPING IN THE SW APPROACHES TO THE BRITISH ISLES

by

JESSIE STEELE TARCHI AND PETER BURTON

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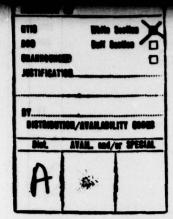
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NORTH ATLANTIC TREATY ORGANIZATION

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Terence Mack Division Chief

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MERCHANT SHIPPING IN THE SW APPROACHES TO THE BRITISH ISLES

by

Jessie Steele Tarchi and Peter Burton

ABSTRACT

Merchant shipping flow in and out of Europe through the English Channel and Celtic Sea is analysed in terms of numbers, size, and destination.

INTRODUCTION

This memorandum presents a study of the flow of merchant shipping to and from northern European ports (including British and Irish) passing through the southwestern approaches to the British Isles. It has been prepared in support of a study of antisubmarine warfare in the English Channel. It gives numbers, sizes, and types of merchant ships (excluding fishing boats and ferries), together with areas of arrival and departure.

Two sources of data were used: Lloyd's List* [1] — a daily newspaper published every day except Sunday — and Lloyd's Register of Shipping* [2]. Lloyd's List gives merchant ship movements to and from ports all over the world, together with their destinations and ports of departure. Lloyd's Register of Shipping lists details of each ship: the type, tonnage, country of registration, etc.

Three periods of one week each have been studied; in November 1975, in February 1976, and in April 1977. Data for all ships entering or passing through the Channel area for these three periods have been extracted and stored. The tables presented represent a digest of this information aimed specifically towards the requirements of the Channel study, but also of general interest in relation to the whole NATO shipping scene.

The tables presented do not represent an exhaustive analysis of the data recorded. Further analysis can be directed towards other specific questions.

Specimen pages of Lloyd's List and Lloyd's Register of Shipping are given in Appendix A.

1 SHIPPING ACROSS AREA BOUNDARIES

Three boundary lines have been drawn (Fig. 1) to delineate the limits of the English Channel and the adjacent northern Celtic Sea and Bristol Channel area.

- A Land's End to Dursey Head,
- B Land's End to Ile d'Ouessant (Ushant),
- C Dungeness to Cap Gris Nez.

Shipping flows across these boundary lines are given in Table 1 for each of the three study periods.

OBSERVATION ON TABLE 1

The data reflect the generally slow increase in trade that has been taking place since 1975.

TABLE 1

AVERAGE NUMBERS OF SHIPS PER DAY CROSSING BOUNDARIES IN BOTH DIRECTIONS*

		Boundary	1
	Α	В	С
Nov 75	56	155	167
Feb 76	72	179	184
Apr 77	65	188	189

*All data in this memorandum refer to ships sailing in both directions. To obtain numbers of arrivals only, divide tabulated figures by two.

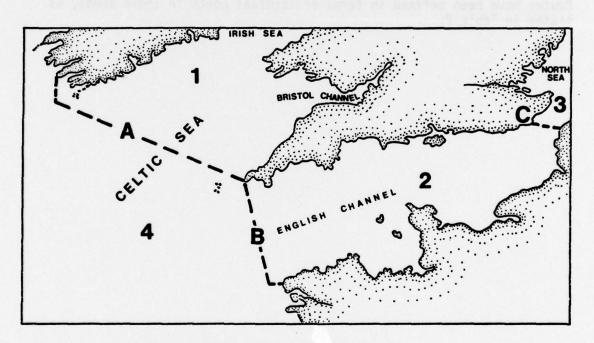


FIG. 1 SOUTHWESTERN APPROACHES TO THE BRITISH ISLES SHOWING BOUNDARY LINES USED IN STUDY

2 SHIPPING PATTERNS

The general patterns of the shipping flow in the three study weeks are shown in Fig. 2 a,b,c. Shipping has been broken down into routes according to the location of the terminal ports. Four areas (see Fig. 1) have been chosen in relation to the boundaries defined earlier. These are:

- Celtic Sea British and Irish ports to the east and north of line A (includes Bristol Channel)
- 2. Channel English and French ports between lines B and C.
- North Sea

 British and North Europe ports to the east and north of line C, including Baltic ports.
- 4. Rest of the World All other ports.

Routes have been defined in terms of terminal ports in these areas, as listed in Table 2.

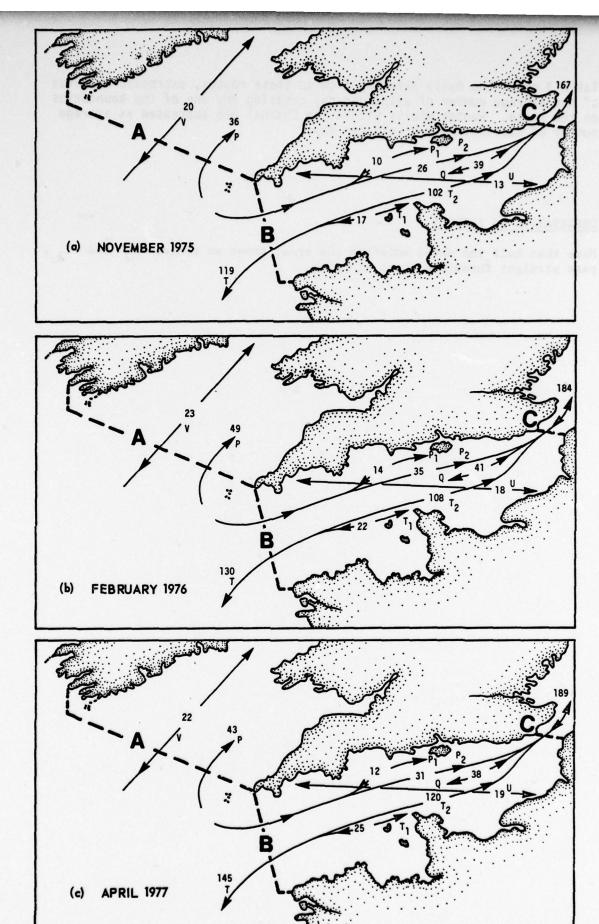


FIG. 2 SHIPPING FLOW — SHIPS PER DAY IN BOTH DIRECTIONS — DURING THE THREE STUDY PERIODS. (Data are tabulated in Table 3.)

Table 3 gives the daily shipping flow on these routes, expressed in terms of the average number of ships per day crossing any one of the boundaries on the route. Routes wholly within the Channel are expressed as average number of sailings and arrivals per day.

OBSERVATION ON TABLE 3

More than half the ships entering the area, those on routes $\,^{\rm P}_2\,$ and $\,^{\rm T}_2$, pass straight through without stopping.

TABLE 2

ROUTES

	Route Indicator	Terminal Ports	Boundary Crossing
Coastal Routes	$ \left\{ \begin{array}{ll} P & \left\{ \begin{array}{ll} P_1 \\ P_2 \end{array} \right. \\ Q & U \end{array} \right. $	Celtic Sea - Channel Celtic Sea - North Sea Channel - North Sea Within Channel	A, B A, B, C C
Short Sea* and Ocean Routes	$ \begin{cases} $	Rest of World - Channel Rest of World - North Sea Rest of World - Celtic Sea	B B, C A

^{*}Short sea routes terminate between Brest and Gibraltar or in the Mediterranean (see Table 9).

TABLE 3

SHIPPING FLOW

(ships per day in both directions)

		Coas	stal		Short	T 14		
	P ₁	P ₂	Q	U	T ₁	т2	V	Total*
Nov 75	10	26	39	13	17	102	20	227
Feb 76	14	35	41	18	22	108	23	261
Apr 77	12	31	38	19	25	120	22	267

^{*}The totals represent the average number of ships per day entering and leaving the area.

Ferries, fishing boats, and pleasure craft are excluded.

TYPES OF SHIPS

3

Shipping on all routes has been classified by four main types of ships, as shown in Table 4. These are: tankers, bulk carriers, general cargo, and container ships. Other specialized types, such as gas tankers, roll-on/roll-off (RO/RO), combined carriers (OBO), combined container/general cargo, are classified as 'others'. There are a small number, usually very new ships, that do not appear in Lloyd's Register. These are classified as 'Unknown'.

OBSERVATIONS ON TABLE 4

- 1. The increase in shipping between Nov 75 and Apr 77 appears mainly as an increase in general cargo ships.
- 2. Specialized types of ships, e.g. containers and those appearing under 'others', show the largest relative increase.
- 3. The reduction in number of tankers between Nov 75 and Apr 77 is accompanied by an increase in size (see Table 5).

TABLE 4

SHIPS ON ALL ROUTES

(ships per day in both directions)

	Tankers	Bulk Carriers	General Cargo	Container	Others	Unknown	Total
Nov 75	42	17	131	8 .	26	3	227
Feb 76	46	17	153	7	28	9	261
Apr 77	39	18	154	11	34	12	267

4 SIZE DISTRIBUTION OF SHIP TYPES

The distribution of the size of the principal types of ship on all routes is presented in Tables 5, 6, 7, and 8.

OBSERVATIONS ON TABLE 5

- 1. The large number of small tankers between 1000 and 5000 dwt are employed mainly on coastal and short sea routes.
- 2. The considerable number of tankers between 20 000 and 50 000 dwt are used:
 - a. For off-loading from VLCCs (Very Large Crude Carriers).
 - b. For the carriage of crude oil on ocean routes where no ports are available for very large tankers, e.g. east coast of USA.
 - c. As oil-products tankers.
 - 3. A trend towards larger VLCCs is seen between Nov 75 and Apr 77.

OBSERVATIONS ON TABLE 6

- 1. Grain carriers form the peak in the distribution between $20\ 000$ and $30\ 000\ dwt$.
 - 2. Ships larger than 60 000 dwt are mainly ore carriers.
 - 3. Small bulk carriers specifically for coastal routes are uncommon.

TABLE 5

SIZE DISTRIBUTION OF TANKERS

(in thousands of dead-weight tonnes)

	0-1	1-5	5-10	10-20	20-50	50-100	100-200	200-300	> 300
Nov 75	13	121	13	27	64	18	8	25	2
Feb 76	16	143	16	29	61	18	7	30	3
Apr 77	6	112	12	27	62	15	6	31	4

TABLE 6

SIZE DISTRIBUTION OF BULK CARRIERS
(in thousands of dead-weight tonnes)

	0-10	10-20	20-30	30-40	40-50	50-60	> 60
Nov 75	3	13	42	19	7	7	25
Feb 76	3	16	46	11	9	10	26
Apr 77	3	17	54	15	4	7	25

OBSERVATIONS ON TABLE 7

- 1. The large numbers of general cargo ships smaller than 3000 dwt are used on coastal and short sea routes.
- 2. The average size of ocean-going general cargo ships is increasing. 10 000 to 15 000 dwt is now the most common size on ocean routes.

OBSERVATIONS ON TABLE 8

Container ships fall into three classes:

- a. Smaller than 4000 dwt for coastal and short sea routes.
- b. 15 000 to 25 000 dwt for most ocean routes.
- c. Larger than 35 000 dwt for the longest ocean routes (e.g. Europe to Far East).

TABLE 7

SIZE DISTRIBUTION OF GENERAL-CARGO SHIPS

(in thousands of dead-weight tonnes)

	0-0.5	0.5-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-15	15-20	20-30	> 30
Nov 75	49	167	229	122	48	31	42	21	31	37	14	90	29	3	6
Feb 76	48	204	231	145	55	46	31	23	34	26	38	136	44	4	3
Apr 77	52	180	238	146	80	34	28	25	35	31	41	140	37	7	1

TABLE 8

SIZE DISTRIBUTION OF CONTAINER SHIPS (in thousands of dead-weight tonnes)

	0-2	2-4	4-6	6-8	8-10	10-15	15-20	20-30	30-40	40-50
Nov 75	8	17	0	0	0	7	6	- 11	2	5
Feb 76	7	10	2	0	2	2	14	10	2	3
Apr 77	9	10	2	2	0.	7	19	9	9	7

Routes T and V (Table 2) include all short-sea and ocean shipping between northern Europe ports and the 'Rest of World' that enter or pass through the area. Routes T and V can thus be broken down into subroutes to and from the area, defined in terms of the major world areas shown in Table 9.

The flow of ships of all types on these routes is given in Table 10.

OBSERVATIONS ON TABLE 10

- 1. "Biscay" and Mediterranean shipping, B and M, (which are the short sea routes) form about 50% of the total numbers.
- 2. Middle East routes (P) carry relatively few ships. Most are of very large tonnage.
- 3. The main growth areas are: "Biscay" (B), Mediterranean (M), West Africa (W).
- 4. Middle East routes (P) are returning to levels existing before the 1973 oil crisis.

TABLE 9
SHORT-SEA AND OCEAN ROUTES

	Route Indicator	Area	Regions included
Short-Sea	∫ B	"Biscay"	Brest to Gibraltar
Routes	J W	Mediterranean	Gibraltar eastwards
	(N	North America	Canada, USA, Caribbean, Panama Canal
Ocean	W to start	West Africa	Gibraltar to Cape Town
Routes	P	Middle East	Persian Gulf, Red Sea
	S	South America	South of Panama Canal zone
	E - S - S	East Africa	Port Elizabeth to Persian Gulf
	F	Far East	Asia, Australasia

TABLE 10

SHIPPING FLOW ON SHORT-SEA AND OCEAN ROUTES (ships per day in both directions)

	В	М	N	W	Р	S	E	F	Total
Nov 75	32	36	27	18	8	7	3	8	139
Feb 76	38	36	27	21	9	9	4	9	153
Apr 77	41	41	25	26	12	10	2	11	168

NUMBERS AND SIZES ON EACH TYPE OF ROUTE

The sizes of ships of any one type are strongly dependent on the route on which they are employed. Table 11 gives the numbers and average sizes of ships employed on coastal, short-sea, and ocean routes (see Table 2 for description of routes).

OBSERVATIONS ON TABLE 11

6

- 1. On coastal and short-sea routes three types of tankers are found: small tankers of average 3000 to 4000 dwt, tankers of about 50 000 dwt for off-loading the VLCCs, partly unloaded VLCCs.
- 2. On coastal routes two types of container ships are found: coastal container ships of 1000 to 2000 dwt and ocean-going container ships larger than 15 000 dwt that load at several N. European container ports before proceeding on their ocean voyage.
- 3. On West Africa and Middle East routes, W and P, very few container ships are found. Containers are carried in general cargo ships, RO/ROs, or other vessels that do not require special port facilities.
- 4. The low average dwt of general cargo ships on the N. America route, N, results from trade in small ships on secondary routes: for example, to the West Indies and Central America. Non-bulk cargoes to USA are carried mainly in container and other specialized ships.
 - 5. A significant proportion of crude oil imports is carried in OBOs.

TABLE 11 TOTAL NUMBERS AND AVERAGE dwt OF SHIPS ON COASTAL, SHORT SEA, AND OCEAN ROUTES (Nov 75, Feb 76, Apr 77)

	co	ASTAL	SHO	ORT SEA	OCEAN							
	T + Q + U		B + M		N		W		Р		S + E +	
	No.	Av.dwt x 10 ³	No.	Av.dwt x 103	No.	Av.dwt x10 ³	No.	Av.dwt x10 ³	No.	Av.dwt x 10 ³	No.	Av.dwt x 10 ³
Tankers	24	12	8.5	20	2.5	35	1.5	74	5	220	1	23
Bulk carriers	2	21	2	26	8	42	2	41	-	-	3	48
General cargo	55	3.5	53	3.8	8	8.3	14	6.4	3	11	12	12
Container	2.5	14	2	3.2	3	20	-	-	-	-	1	37
Others*												
Type A	1	64	0.5	44	1	63	0.5	66	1	173	1.5	101
Type B	10	3.1	5	5.2	3	17	2.5	7.6	1	8.0	1.5	8.8

^{*&#}x27;Others, Type A' include OBOs, Ore Carriers, etc.
'Others, Type B' include RO/RO, LASH, mixed cargo/container, etc.

REFERENCES

- LLOYD'S LIST, London, U.K.: Lloyds of London Press Ltd, 1734 ... daily.
- LLOYD'S REGISTER OF SHIPPING. Register of Shipping 1976-77.
 London, U.K., Lloyd's Register of Shipping, 1976.

DATA SOURCES

SHIPPING MOVEMENTS

1	2	3	4	5	6
UNITED	Rhein, Sep 17 Rotterdam Weser (500) Cork	OTTERHAM QUAY AR Nosmos, Sep 16 London	Thuntank 6, Sep 15 Shell Haven Yaguar (salvage tug) Riga	Cape Ray, Sep 16 Waterlord Patroclus Liverpool	EASTHAM AR Achatina, Sep 16 Millord Ha
	Lucy Essberger Norway	OTTERHAM QUAY SD	Boyan Flushing	Anjo Poole	Falmouth (Br) Londonderr
KINGDOM and	Edward Stone Dieppe Desert King Apapa/Lagos	Kosmos, Sep 17 Rotterdam Twebro Rotterdam	Cornouailles, Sep 16 Roscott Skyventure Antwerp	BP Scorcher, Sep 17 Shoreham	Texaco Bergen, Sep 17 Millord Have
IRELAND	Chevron The Hague Canvey Island Vesta (Du) Rotterdam	QUEENBOROUGH SD Susan Mitchell, Sep 17 R Thames	Pertinence Treport Valzell Antwerp	Nada Montanari Antwerp La Paloma (Pa) (499)	Wheelsman Miltord Have EASTHAM SC
ONDON AI	Bifrost Cork	SHEERNESS AR	Poseydon (salvage tug) Riga	Sharpness	Beigutt Strength, Sep 16
Ishurst, Sep 16 Tyne Marryos I Falmouth	mount Godingey	Olau Kent, Sep 16 Flushing Olau Finn, Sep 17 Flushing	Amoria Whitegate	Guidesman, Sep 18 Loch Kishorn	Milford Haver Messiniaki Armonia Piraeu
drost Harwich	Rathryn S. Hamburg	Olau Kent Flushing Olau Finn, Sep 18 Flushing	Star Ann FOWEY AR	SWANSEA SD Korcula, Sep 16 Manchester	Falmouth (Br) Dublin Andairon Leisoe:
rgus Pride Rouer Iarriene Rotterdam	Function Medway Lomonosovo Rotterdam	Caribia (Ss) Amsterdam	Potenitz. Sep 15 Belfast	Carrigrennan Cork	Wailona Swed-
ancing (Br) Artion rchangelos (Gr) Ceuts	Aspera Rotterdam	SHEERNESS SD Olau Kent, Sep 15 Flushing	Kielder Stag. Sep 16 Rotterdam Jasenitz Antwerp	Ballyloran Larne Activity (Br) Barton	Essi Flora Wilmington (1)
attersea Tyne	2 Separa Ababa/ Lagos	Otau Finn, Sep 16 Flushing Otau Kent Flushing	Pro Mar Bordeaux Moler Venture, Sep 17	Lady Carina Odense Jacobus Broere, Sep 17	Otto (Ge) (1250) Shell Have Carrick Kestrel Carricktergy
ol Colchester enlodi Erverpool	learning B Ct Volery cur Comme	Olau Finn, Sep 17 Flushing	Teignmouth	Millord Haven	Robert M Sep 18 Ardrossa ELLESMERE PORT A
orina (Ge), Sep 17 Haitz	Kazakhstan Rotterdam	Trojaland Helsingborg Theodor Storm (Ge) Lisbon	FOWEY SD	Eildon Nantes	City of Lisbon (Br), Sep 18
lerlang Heidi Odda	Bell Vigour Rotterdam	Olau Kent Flushing MARGATE ROADS	Flowergate, Sep 15 Uddevalla Kristine Sobye, Sep 16 Halden	BP Scorcher Falmouth Nada Montanari Antwerp	ELLESMERE PORT SE
sther S. (Pa) Neuss erra Lerwick	Late Cottonburg	SHELTERING	PAR AR	Anjo Ghent	Warrington, Sep 17 Savon.
leeltje Broore Rotterdam option Rotterdam	Bencleuch Immingham	Mare Novum, Sep 17 MARGATE ROADS AR	Nordstern (EG), Sep 15 Manchester	Guidesman, Sep 18 Londonderry MOSTYM SO	R S Jason jedda STANLOW AF
as Island Gheni	Langeland Fowey Babor, Sep 18 Bandar Mahshahr	Yanting, Sep 16 MARGATE ROADS SD	Galstar Limerick Vauban, Sep 16 Dunkirk	Jaco. Sep 16 Hamburg Ouintus Norway	Robert M. Sep 17 Gernaryon
vahlistan Dublin	Pass of Carnwell Immingham	Yanting, Sep 17	Waterdale Dieppe	MERSEY BAR AR	Partington Kirkcudbrigh
mpulung Rotterdam are Novum Swanses	la Dattardam	COWES SD Helena C. (Br), Sap 16	Argo D. Southampton Aat V. Nantes	Bridgeman, Sep 17 for Eastham	Dundee Sep 18 Limerica STANLOW SC
ocator Medway		NEWPORT(IOW) Portsmouth	Sonja Hove Tenerile	Achatina Eastham	Stella Fornax Sep 16 Millord Have
ty of Winchester Grangements nith Malta	Coburg (tug) Southampton Satow Sweden	Futurity. Sep 15 London	Turnberry, Sep 15 Rouen Vietors Algeoras	Pantazis L. San Pedro (Arg) for Liverpool	Essi Flora Sep 17
enclouch Havro	Rudyard Ghent	Ast Lake, Sep 16 Shoreham SOUTHAMPTON AR	Eddystone Rotterdam	Arya Pas. Sep 18 Bremen for Liverpool	Leadsman Caernaryon
int Gheni andick Newlys	Mauricio de Oliveira Rotterdam	Malcolm Miller (aux.training), Sep 16 cruise	Lone Clipper Pasajes Celebrity, Sep 16 Antwerp	LIVERPOOL AR	Robert M Ardrossar Partington, Sep 18 Limerici
ovetsky Pogranichnik Onego	Terra	Oriana, Sep 17 cruise	Vauban Dunkirk Argo D. St Etienne du Rouvray	Munster, Sep 16 Dublin Greenland Rouen	INCE AF
amourg ventspri buricio de Oliveira Lemoes	SHELL HAVEN AR	Calypso (Gr) cruise Tokio Express Rotterdam	Aat V. Antwerp	Atlantic Star (Du) New York Atlantic Bridge New Orleans	Butasiete, Sep 17 Gijoi INCE SE
lary Weston Bordsous labor Havro	Thuntank 6 Plymouth	Pattree Rouen Elbe (Ge) (999), Sep 18 Belfast	TRURO AR Shetland Trader, Sep 15	Conster Douglas	Otto (Ge) (1250). Sep 16 Snell Have
rsan Mitchell Queenbarough	Pass of Balmaha, Sep 17 Stanlow Orionman, Sep 18 Rotterdam	Atlantic Cognac New York	Sharpness SD	Africa Palm Monrovia Anna Becker, Sep 17 Guernsey	Peder Lysgaard. Sep 17
Tana	Acavus Rotterdam	Leon (Ho) Paramaribo SOUTHAMPTON SD	Shetland Trader, Sep 16 Antwerp	Leinster Dublin	Butasiete Sep 18 Santange
ine Graebe Hemburg e Bres Huelva	SHELL HAVEN SD	Southampton Castle, Sep 16 Durban	FALMOUTH AR Caribbean Progress, Sep 16	Ulster Prince Belfast	WESTON MARSH LOCK
aborg (tug)	Teesport, Sep 16 Guernsey Helle Thoistrup, Sep 17 Havre	Janega Jacksonville	Bandar Abbas	Dapo Wave Kirkenes Hawthorn Londonderry	Carrick Restret Sep 16 Core
rjan, Sep 18 Southend Anchorage	Thuntank 6 Rotterdam	Australis Sydney Oriana, Sep 17 cruise	Sarah Weston Waterford	Deido Port Harcourt Marwit Acton Grange	Carrigrennan Cori Opnor Sep 17 Sharpness
ienhagen Rostock	Pass of Balmaha, Sep 18	Calypso (Gr) cruise Hexrivier	FALMOUTH SD Caribbean Progress, Sep 16	Munster Dublin	WESTON MARSH LOCK
inopus (Ge) Hamburg icele Leinoes irnelie Besma Casablanca	Kotterdam	FAWLEY AR	Antwerp Trentwood Immingham	Merchant Leith Wicklow, Sep 18 Dublin	Baltzborg, Sep 16 Finland
idette Ymuiden	Plymouth, Sep 17 Guernsey	Esso Callunda, Sep 16 Antwerp Esso Warwickshire Scapa Flow	BRIDGWATER AR	Leinster Dublin Ulster Queen Belfast	Carrick Restret Carricklergus WESTON POINT SC
oll Park St John (NB)	CORYTON SD	John M., Sep 17 Peterhead Esso Cardiff Lyme Bay	Ballyloran, Sep 13 Kilroot PORTISHEAD SD	City of Cape Town Glasgow	Ben Veen. Sep 16 Runcorr Lysholmen. Sep 17 Osla
ercurius (500) Peterhead		Bellona London	Esso Hythe, Sep 16 Milford Haven AVONMOUTH AR	Lancashire Coast Dublin	RUNCORN AF
	Cornels Broere, Sep 16 Havre	Esso Caernarvon, Sep 18 Dover	Stadt Wolfsburg, Sep 16	Leinster, Sep 16 Dublin Lancashire Coast Belfast	Ben Veen, Sep 16 Weston Point Inger Smits, Sep 17 Rotterdam
lison Star Sarrock Gus Antwerp	London	S.G.Tholstrup Port Jerome Marco Polo (No) Stenungsund	Echo, Sep 17 Dublin	Ulster Queen Bellast	Dutch Mate Partingtor The Lady Patricia, Sep 18 Dubir
errison Point Stytt urlaw Grimsby	CANVEY ISLAND SD Cornels Broere, Sep 17	FAWLEY SD Esso Caernarvon, Sep 16 Dover	Viscount (Du) Hamburg Indian Fraternity Bombay	Munster Dubin Roendiep Teignmouth	RUNCORN SO
ofto Berger	Rotterdam	Pass of Chrsholm, Sep 17 Tees	Ibn Khaldoon Liverpool	Dapo Sailor Sagunto Jana Weston Leith	Saint Colman, Sep 16 Lochalini Ben Veen Waterford
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yen Morway legro Rotterdam	Stellaman, Sep 18 Europoort ISLE OF GRAIN SD	Tarring, Sep 14 Goole Cotentin, Sep 15 Cherbourg	Bell Ranger Waterford	River Benue Belfast Owerri (Br) Dakar	Esso Tenby, Sep 16 Millord Haves
irgitta Rotterdam	Rudderman, Sep 17 Shorenam	Dorset Cherbourg Dorset, Sep 16 Cherbourg	NEWPORT SD Finkenau, Sep 16 Sharpness	Larchbank Rotterdam	Eucadia, Sep 17 Bombai Manchester Crusade Montrea
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schin Copenhager msimor Antwerp	Tollana, Sep 18 Fredericia	Anjo. Sep 15 Jemrix Ymuiden	Bell Cavalier Waterford	Uister Prince Beltast Munster Dublin	Korcula Piraeu
adleyd Weser Dohn	KINGSMORTH AR	Teesport Shell Haven Cotentin Cherbourg	CARDIFF AR Rathowen, Sep 16 Millord Haven	Lysvik Sullom Voe	Sentence, Sep 18 Roue MANCHESTER SI
m M. Gook	Midherst London	Dorset Cherbourg	Dimona, Sep 17 Avonmouth Urbia Cork	Tegiholmen Antwerp Lancashire Coast, Sep 18 Dublin	Esso Tenby, Sep 17 Millord Haver PRESTON AF
New Deer Rotterdan Grandt Bromen	Maplehurst, Sep 17	Dorset, Sep 16 Cherbourg PLYMOUTH AR	Wakenitz Rotterdam	GARSTON AR	Goodwill Traveller, Sep 15
regult Bromer in Ems Rotterdam Whurst, Sop 17 Kingsnorth	Great Yarmouth	Richard Rahmann, Sep 15 St Brieuc	Marina H., Sep 18 Glasgow CARDIFF SD	Craigantlet, Sep 16 Belfast Litania Ridham Dock	Owenglas Greenor
an Macintosh Hul	ROCHESTER AR	Amoria Stanlow	Rathowen, Sep 16 Millord Haven	Kostromales Ventspils Ballylesson, Sep 17 Belfast	Capacity Sep 16 Castletow
CT 7 Zeebruggs on Flore Bremer	Fridel, Sep 17 Ymuiden Patricia S. Sande	Cornoualles, Sep 16 Roscoff Poseydon (salvage tug) Gibraltar	Geestland, Sep 17 Dominica	Craigwood Belfast	PRESTON SE Polarisman Sep 15 Millord Have
pllone Frintey ardenburgh Cossiplance	RUCHESTER SD	Star Ann, Sep 17 Teignmouth (for bunkers)	BARRY SD Esso loswich, Sep 16	Silverthorn Coleraine GARSTON SD	Extramar Sur Orton. Northgate Castletown
urdenturgh Cassistance prins Rholes (IS Gul trathingy Juddal	Stemburg, Sep 16 Rotterdam John Wuff, Sep 17 Oskarshamn	Penn ar Bed St Malo	Millord Haven	Olive, Sep 16 Warrenpoint	Goodwill Traveller, Sep 16
	Fridel Ymuiden	PLYMOUTH SD Fietching, Sep 15 Larne Veta (Ge) Hussian	SWARSEA Jacobus Broere, Sep 16	Moyle Warrenpoint Eco Sado Portugal	Owenglas Greenore
ommodore Trader Jersey	Querte de Ambares Crassementh	Vota (Co) Hueum	Millord Haven	lork Rochester	ASD Black Swan Rotterdam

8703240	ERMA	3 859		1966 G.D	mitrou Shin	verd_Veres		M Tanker	Oil	ERMA
	The People's Republic of China	1818		131.07	16.01	yero—varna			UI .	
	People's Republic of China			1 dk	-	-		15 Te ER		10.5
	ERMINE	106		1943	Seattle. \	Na .		Wood TM Fishing	2 Oil each 3Cy.	
NA4729 244852	C W C Fisheries Inc.	93		24.39 24.39	7.57 7.52	2.04		Side-fishing Mchy.eft	149kW (200bhp) Superior Engine Co.	
Adr AT	Ketchikan, Ak United States of America			1 dk					Constitution of the consti	
5106661	ERMINE	101		1960 Sch	sb. K. Hakve	oort-Monnic	kendam (95)	M Fishing	Oil 2SA 5Cy.	-
	O. Willie	-		26.88	6.25		(90)	Side-fishing Mchy.aft	N.V. Mch. Boines	Krimper
DI Esd RT	- Federal Republic of Germany				***					
7234521 IBLC	ERMINIA PRIMA	72 730 63 728		1973 Itaic	antieri S.p.A. 40.85	-Mfl 16,479	(4279)	8 Ore/Oil Carrier	2 S Turb dr geared to sc shaft 20 888kW (28 000shp)	
878 Of Esd	SI.TA. Siciliana Tanker S.p.A.	36 182	AB RI	279.94 1 dk	40.75	22.26		10 Ho 12 Ta ER G.89 482 L.80 760	Ansaldo Meccanico Nucleare S.p.A.	Ger
Gc Pld Rdr RT	raiging italy			1 GK				10 He (sti)	Gen 1 × 1200kW 1 × 900kW Fuel 8 878.0t (hvf)	16.5km
6426986	ERMINIO BORIO	171			Nav. ICAN	-Pesaro		M Fishing	Oil 4SA 6Cy. 265 × 410	
IRCZ 553	ex Nicola Marchegiani-63 Giorgio Melchiorri	81		35.01 28.71	6.76	3.71		Side-Trawler	336kW (450bhp) Anseldo Stab. Mecc.	Ger
Esd Rdr	Rome Italy						•		Palation State. Imped.	
7214923 SWUA	ERMIS		#100A1 strengthened for heavy	1972-9 N	V. Boelwerf	S.A.—Temse	(1464)	M Bulk Carrier	Oil 2SA 8Cy. 700 × 1200 8 355kW (11 200bhp)	
and an arrangement of	Estrella Valiente Navegacion	30 255	cargoes. Nos. 2 & 5 holds	190.02	22.99	10.808	(1404)	6 Ho 19.5 20.4 26.9 21.0 26.9	A.C.E.C.	MAN
Of Esd Gc Rdr	S.A. Piraeus Greece		may be empty #LMC UMS	181.03 P 33.3 F 1	22.93 5.8 1 dk	14.51		23.1 ER G.36 964 B 35 236	Gen 3 × 450kW 440V 60Hz a.c. Fuel 274.5t (d.o.) 1 945.5t (hvf)	15.5km
RTm/v			EL G1 21.03	rf nil		omb. btm. side	. 4	6 Ha (11.1 16.6 18.2 14.1 18.2 ,14.1 × 9.9) ER		
					enks in holds			18W Der 6(20) 1(5)		
5011640 SXGT	ERMIS ex Altman-74		#100A1 SS 1/73	1960-10 K	ieler Howeld	itswerke A.G.		M General Cargo OSD/CSD	Oil 2SA 6Cy. 760 × 1550	
1771	Ili Cie. Neviere S.A.	-	Ice Class 3 **LMC	157.84	19.59	9.278	(1098)		5 819kW (7 800bhp) Suizer Bros. Ltd.	Win
Of Esd Gc Rdr	Pireeus Greece	5 911	EL et 21'SQ	P 7.1 F 14.	19.50 7 1 dk & S	12.04			2 Aux8 0.69MPa (1001b/in7)	
•		13 997		rf 152		dk W83326	lt incl			
					nks 105t D1		it inci.			
6221221 Sv3399	ERMIS ex Buchholz-71 ex Mare Bonum-69	303		1957-12 A	lms. Schp. G	. de Vries Lei	ntsch (2485)	M General Cargo	Oil 4SA BCy. 320 × 450 492kW (660bhp)	
98 Df Esd	ex Annie F-63 A. Sdougges	863	&LR class withdrawn 23/4/76	58.09 52.76	9.38	3.734		1 Ho 34.6 ER G.1 090 B.1 005	Klockner-Humboldt-Deutz Gen 2 × 7,5kW 110V d.c.	Kin
Adr ATm	Michael Gigilinis Thessaloniki Greece		20,47,0	P 14.7 F 9.		4.07		2 He (each 12.1 × 5.0) ER 2W Der 2(3)	Fuel 59.0t (d.o.)	10.5km
7387446	ERMITA DE SAN ROQUE	194		1974 Ast.	GondanG _i	n	(87)	M Fishing	Oil 45A 6Cy. 315 × 480	
EGRD	Cooperativa de Productos	76	BV	30.74 26.50	7.01 6.99	3.398		Side-Trawler	448kW (600bhp) Carmelo Unanue	Zumaya
Of Esd Rdr RT	Pesqueros Gijon Spein			1 dk						10km
6721516 ELAR	ERMOUPOLIS	34 827 24 020		1967 Kaw	eseki Dkyd C	o. Ltd.—Kob	*****	M Ore/Bulk/Oil Cerrier	Oil 25A BCy. 860 × 1600	
2760	ex Goiar Obo-72 Cla. Ulysses S.A.	69 497	AB	243.42(86)	32.26	13.647	(1080)	Str. heavy cargoes	13 726kW (18 400bhp) Kawasaki Dkyd Co. Ltd.	Akash
Of End Gc Rdr	Monrovia Liberia			230.00 F 19.2 1 di	32.19	19.51		7 Ho each 24.0 14 Te ER Der 4(10) 6(5) 2(2)	Gen 1 × 560kW 2 × 400kW 445V 60Hz a.c.	
RTV				H 152					Fuel 3 915.0t (hvf)	16.75km
6130939	ERMOUPOLIS ex Giovanna de Pirro-65	142		1947 Cant 30.43	Nav. Filli A	ccinelli—Italy 2.439		M General Cargo	Oil 4SA 6Cy. 210 × 320 112kW (150bhp) E made34 fitted-	
2234	ex Fortuna-58 ex Pirata	356		27.08	5.10	3.05		1 Ho 18.9 ER	Deutzwerke	Kie
	P. Skouris & L. Efthymiau Piracus Greece			1 dk				8.265 1 He (8.2 ×) ER	Fuel 10.0t (d.o.)	8kn
								1W Der 1(1.5)	NEW CONTRACTOR	
7303796 EELF		30 074 20 027		1973-5 As 206.86(BB)	29.06	13.278	(188)	M Bulk Cerrier	Oil 25A 6Cy. 900 × 1550 11 190kW (15 000bhp)	Suize
Of End	Moviero Vizceino S.A. Bibeo Spein	54 889	cargoes. Nos. 2, 4 & 6 holds may be empty	194.32 P 33.6 F 1	29.01	18.01		7 Ho each 21.0 ER G.68 915	Ast. Espanoles S.A. 2 Aux8 (1 o.f. 1 ex.g) 0.69MPe (7kg	Sestac
Gc Rdr RTm/h			OLMC EL LT 21"U3	rf nil		aci Toneide	tenke in	7 He (stf) (11,2 × 12.0) (13.4 14,1 14,1 14,1 14,1 14,1 × 14.0) ER	Gen 3 × 400kW 450V 60Hz a.c. Fuel (hvf)	15kr
				holds 66	44t Comb. t holds 6093	tm & STs in	Nos. 1,			1041
6106714	ERNA	141		1929 E.J.	Smit & Zoo	n—Hgz	-	M General Corgo	Oil 4SA 3Cy. 240 × 360	-
OCFP	Christolph Badowien	198		31.50	5.69	2.007		1 Ho 16.9 ER	NE 37 Humboldt-Deutzmot. K	oin-Deut
	Warsingstehn Federal Republic of Germany			RQD 6.4 1	dk		len 57	G241 B217	Fuel 4.0t	7kr
6106738	ERNA ELIZABETH	20 667		1959 Beth	lehem Pacifi	c Coest Sti C	orp.	S Tanker	2 S Turb dr geared to sc. shaft	-
WHUK 200193	Albetrees Tanker Corp.	12 548 35 464	AB	-\$.Fo	27.51	10.856	(5487)	30 To ER	11 190kW (15 000shp) Bethlehem Stl. Co.	Oct
Of Esd Gc Pfd	New York, NY United States			192.03	27.44	13.80		L44 587	Gen 2 × 600kW 220V 60Hz a c.	
Rdr	of America			1 dk RW # 203				Der 2(5)	rue 3 149.5t (0.f.)	16.5kr
RTm/h										

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